FIG.1

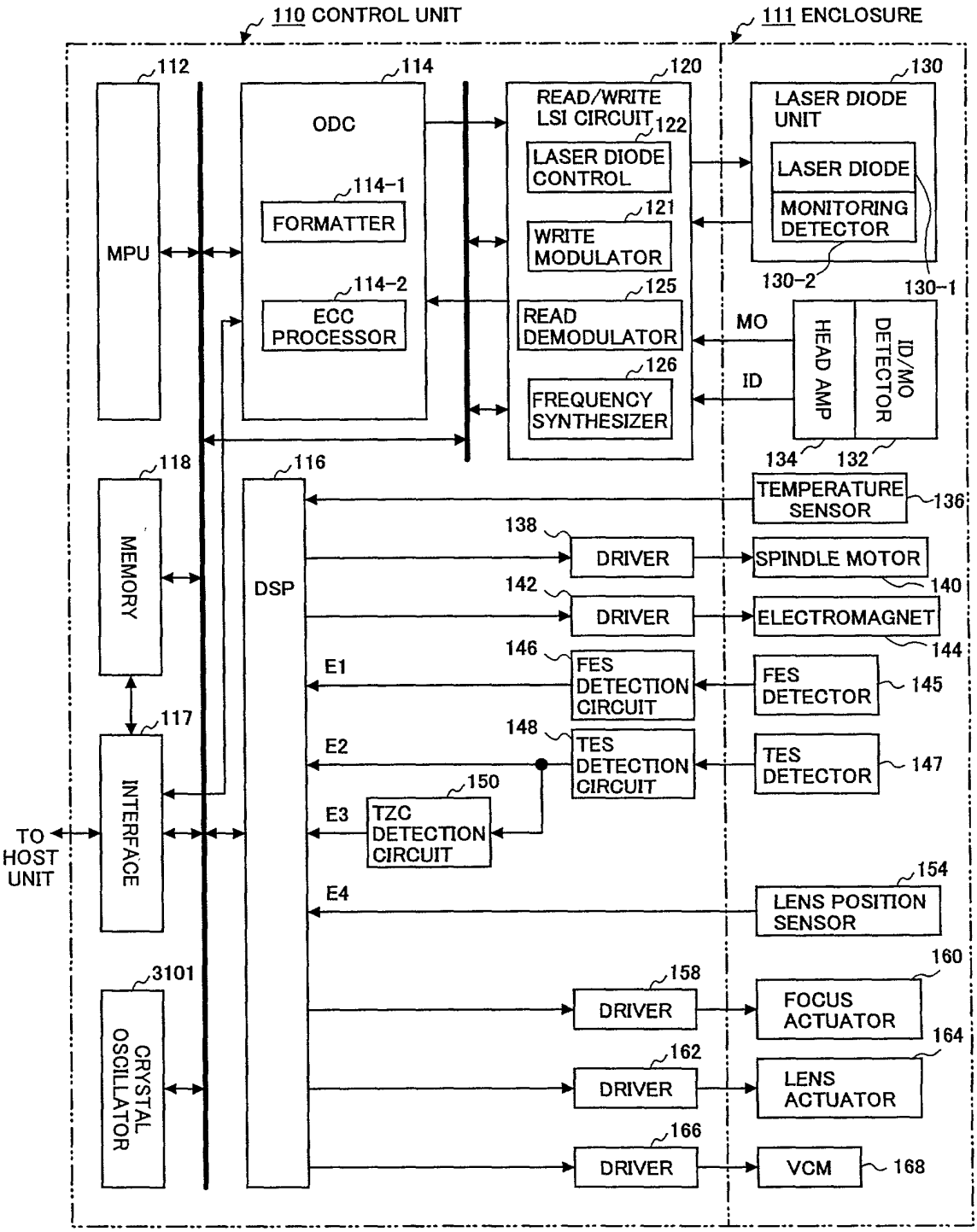
110 CONTROL UNIT
111 ENCLOSURE
112
MPU
114
ODC
114-1
FORMATTER
114-2
ECC PROCESSOR
120
READ/WRITE LSI CIRCUIT
122
LASER DIODE CONTROL
121
WRITE MODULATOR
125
READ DEMODULATOR
126
FREQUENCY SYNTHESIZER
130
LASER DIODE UNIT
LASER DIODE
MONITORING DETECTOR
130-2
130-1
MO
ID
HEAD AMP
ID/MO DETECTOR
134
132
118
MEMORY
116
DSP
TEMPERATURE SENSOR
136
138
DRIVER
SPINDLE MOTOR
140
142
DRIVER
ELECTROMAGNET
144
146
FES DETECTION CIRCUIT
FES DETECTOR
145
E1
148
TES DETECTION CIRCUIT
TES DETECTOR
147
E2
150
TZC DETECTION CIRCUIT
E3
117
INTERFACE
TO HOST UNIT
154
LENS POSITION SENSOR
E4
3101
CRYSTAL OSCILLATOR
158
DRIVER
160
FOCUS ACTUATOR
162
DRIVER
164
LENS ACTUATOR
166
DRIVER
VCM
168

FIG. 2

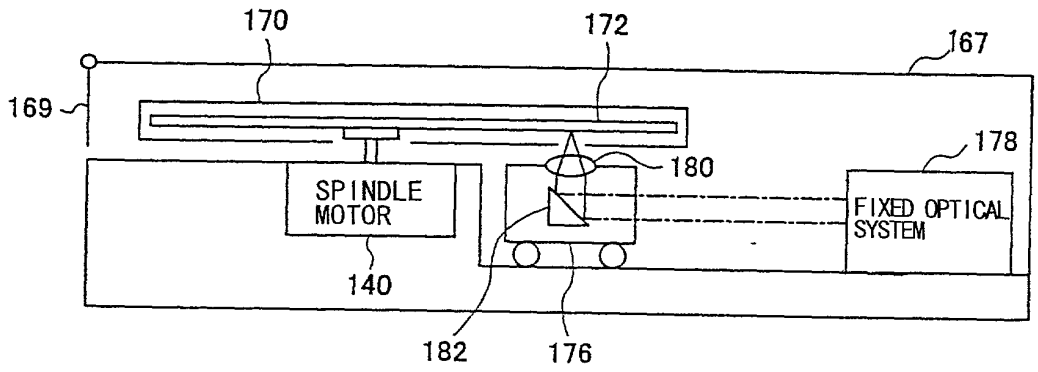

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FIG.3

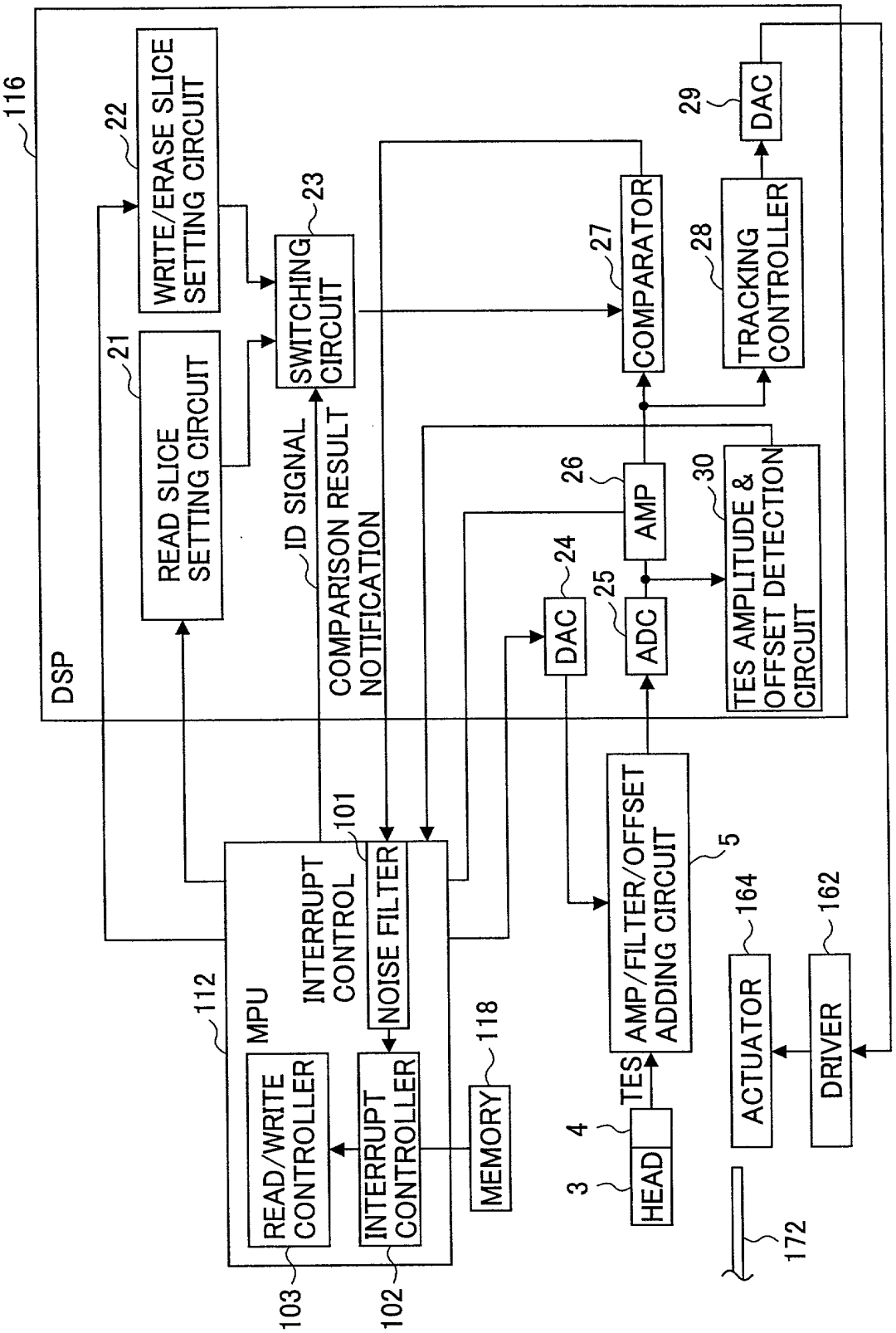
116
DSP
22
WRITE/ERASE SLICE SETTING CIRCUIT
21
READ SLICE SETTING CIRCUIT
23
SWITCHING CIRCUIT
ID SIGNAL
COMPARISON RESULT NOTIFICATION
27
COMPARATOR
28
TRACKING CONTROLLER
29
DAC
26
AMP
30
TES AMPLITUDE & OFFSET DETECTION CIRCUIT
24
DAC
25
ADC
101
INTERRUPT CONTROL
NOISE FILTER
112
MPU
READ/WRITE CONTROLLER
INTERRUPT CONTROLLER
118
MEMORY
AMP/FILTER/OFFSET ADDING CIRCUIT
5
TES
4
3
HEAD
164
ACTUATOR
162
DRIVER
172
103
102

FIG.4

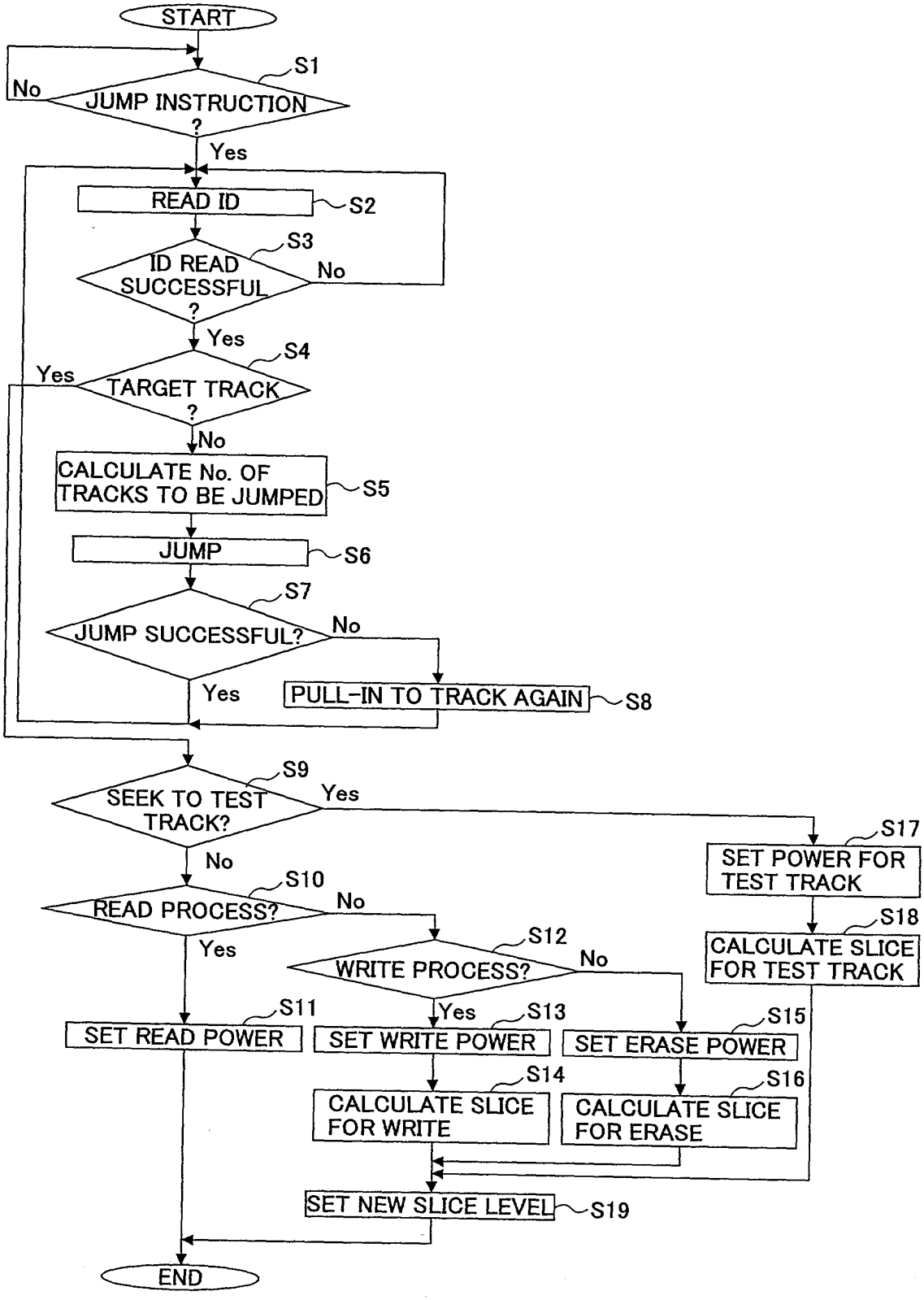
START
S1
No
JUMP INSTRUCTION ?
Yes
READ ID
S2
S3
ID READ SUCCESSFUL ?
No
Yes
S4
Yes
TARGET TRACK ?
No
CALCULATE No. OF TRACKS TO BE JUMPED
S5
JUMP
S6
S7
JUMP SUCCESSFUL?
No
Yes
PULL-IN TO TRACK AGAIN
S8
S9
SEEK TO TEST TRACK?
Yes
No
S10
READ PROCESS?
No
Yes
S12
WRITE PROCESS?
No
Yes
S11
SET READ POWER
S13
SET WRITE POWER
S15
SET ERASE POWER
S14
CALCULATE SLICE FOR WRITE
S16
CALCULATE SLICE FOR ERASE
S17
SET POWER FOR TEST TRACK
S18
CALCULATE SLICE FOR TEST TRACK
SET NEW SLICE LEVEL
S19
END

FIG.5

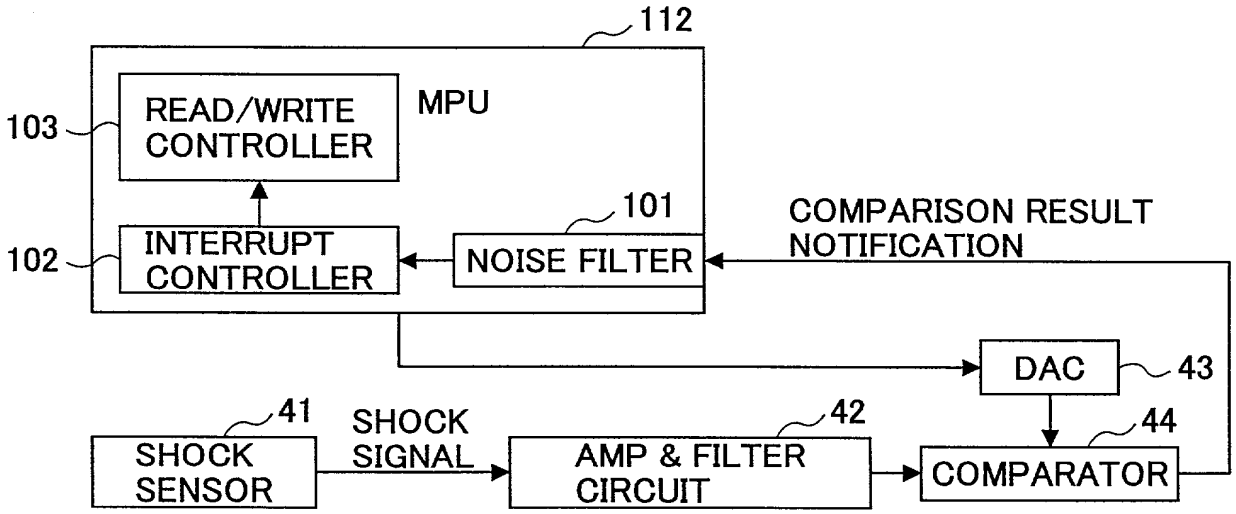

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FIG.6

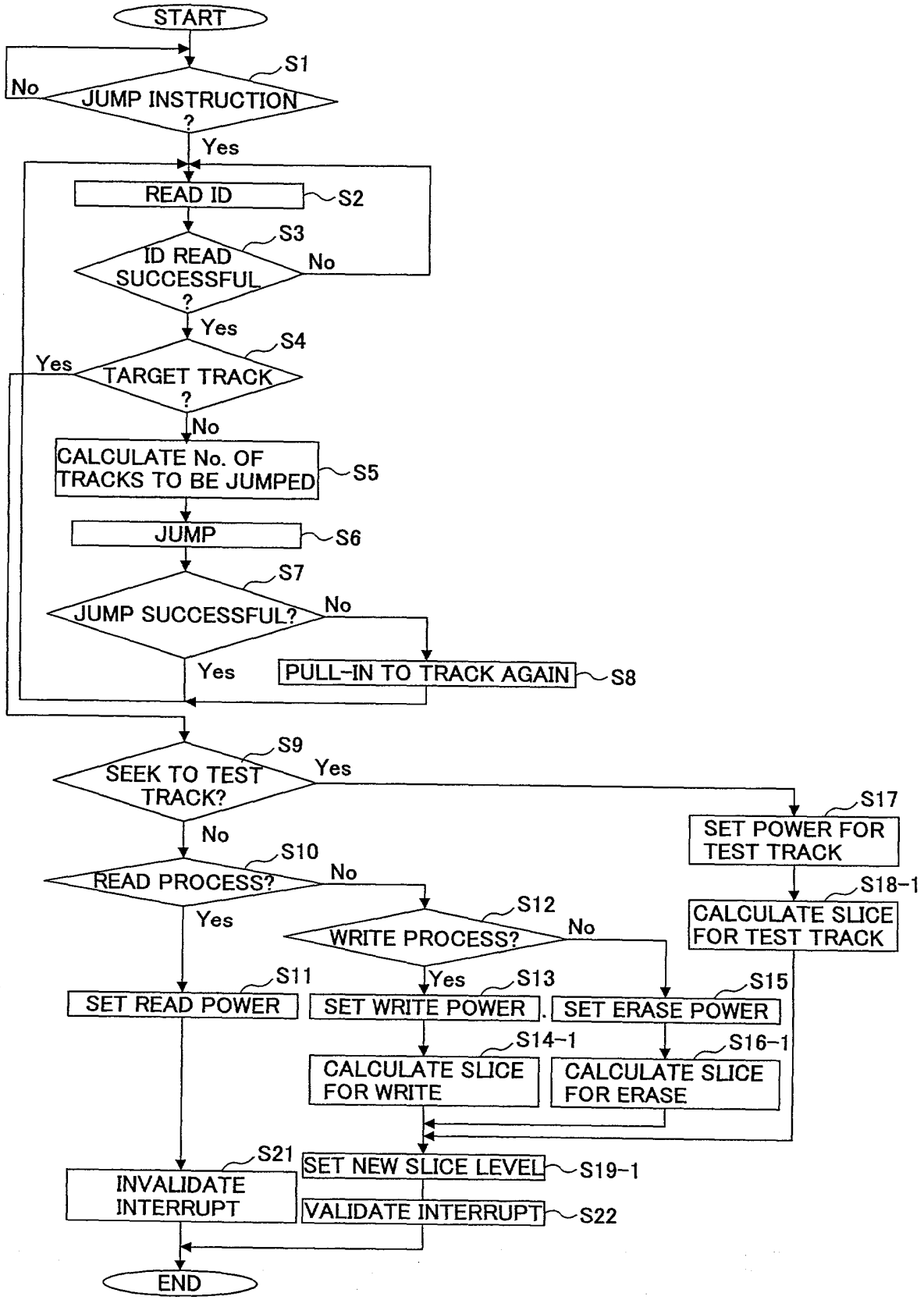
START
S1
No
JUMP INSTRUCTION ?
Yes
READ ID
S2
S3
ID READ SUCCESSFUL ?
No
Yes
S4
Yes
TARGET TRACK ?
No
CALCULATE No. OF TRACKS TO BE JUMPED
S5
JUMP
S6
S7
JUMP SUCCESSFUL?
No
Yes
PULL-IN TO TRACK AGAIN
S8
S9
SEEK TO TEST TRACK?
Yes
No
S10
READ PROCESS?
No
Yes
S12
WRITE PROCESS?
No
Yes
S17
SET POWER FOR TEST TRACK
S18-1
CALCULATE SLICE FOR TEST TRACK
S11
SET READ POWER
S13
SET WRITE POWER
S15
SET ERASE POWER
S14-1
CALCULATE SLICE FOR WRITE
S16-1
CALCULATE SLICE FOR ERASE
S21
INVALIDATE INTERRUPT
SET NEW SLICE LEVEL
S19-1
VALIDATE INTERRUPT
S22
END

FIG.7

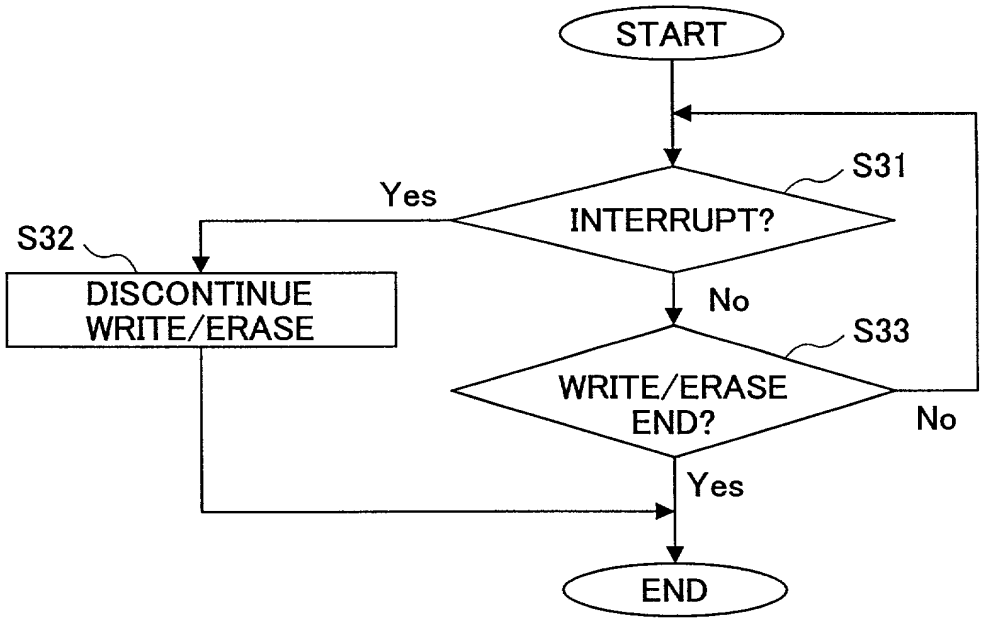

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FIG.8

RETRY COUNTER	OTPIMUM WRITE POWER [%]	SLICE LEVEL [μm] FOR DETECTING OFF-TRACK	OFF-TRACK DETECTION TIME CONSTANT [μs]	WRITE SLICE LEVEL [m/s^2] FOR DETECTING SHOCK	SHOCK DETECTION TIME CONSTANT [μs]
5	−3	0.08	6.3	31.4	6.3
3	−2	0.07	5.9	27.4	5.9
1	−1	0.06	5.5	23.5	5.5
0	0	0.05	5	19.6	5
2	+1	0.04	4.5	15.7	4.5
4	+2	0.03	3.9	11.8	3.9
6	+3	0.02	3.2	7.8	3.2

WRITE AND/OR ERASE METHOD AND STORAGE APPARATUS
Ikeda, et al.
Greer, Burns & Crain, Ltd. (Patrick Burns)
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FIG.9

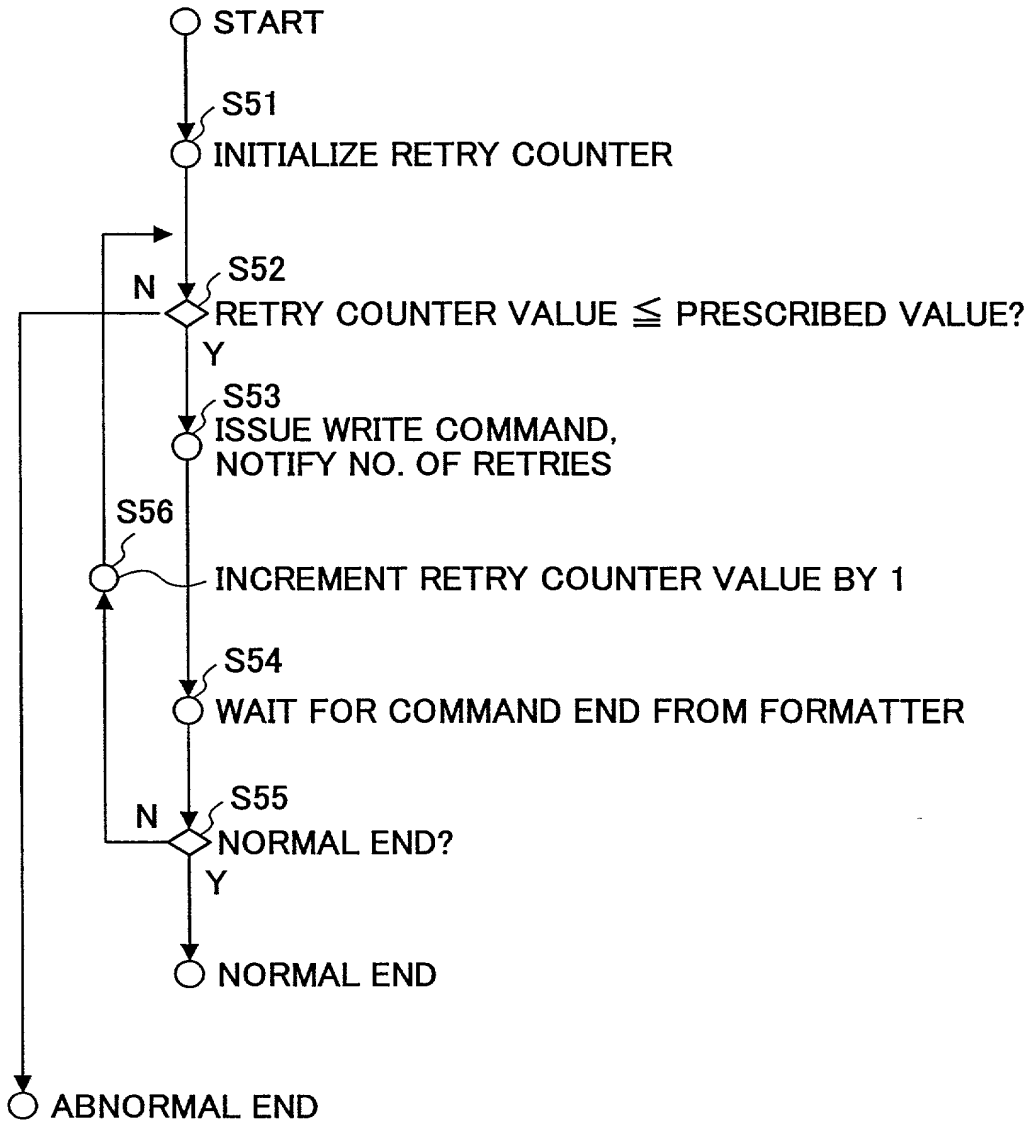
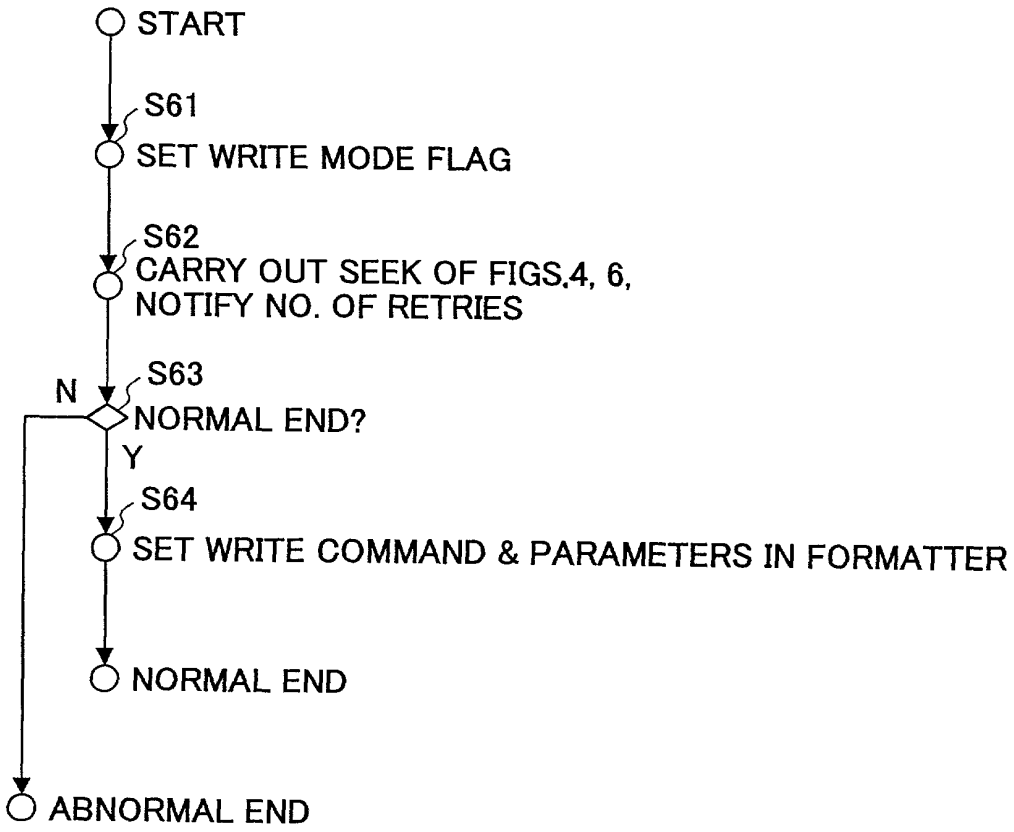

START
S51
INITIALIZE RETRY COUNTER
S52
N
RETRY COUNTER VALUE ≦ PRESCRIBED VALUE?
Y
S53
ISSUE WRITE COMMAND,
NOTIFY NO. OF RETRIES
S56
INCREMENT RETRY COUNTER VALUE BY 1
S54
WAIT FOR COMMAND END FROM FORMATTER
S55
N
NORMAL END?
Y
NORMAL END
ABNORMAL END

FIG.10


START
S61
SET WRITE MODE FLAG
S62
CARRY OUT SEEK OF FIGS.4, 6,
NOTIFY NO. OF RETRIES
S63
N
NORMAL END?
Y
S64
SET WRITE COMMAND & PARAMETERS IN FORMATTER
NORMAL END
ABNORMAL END